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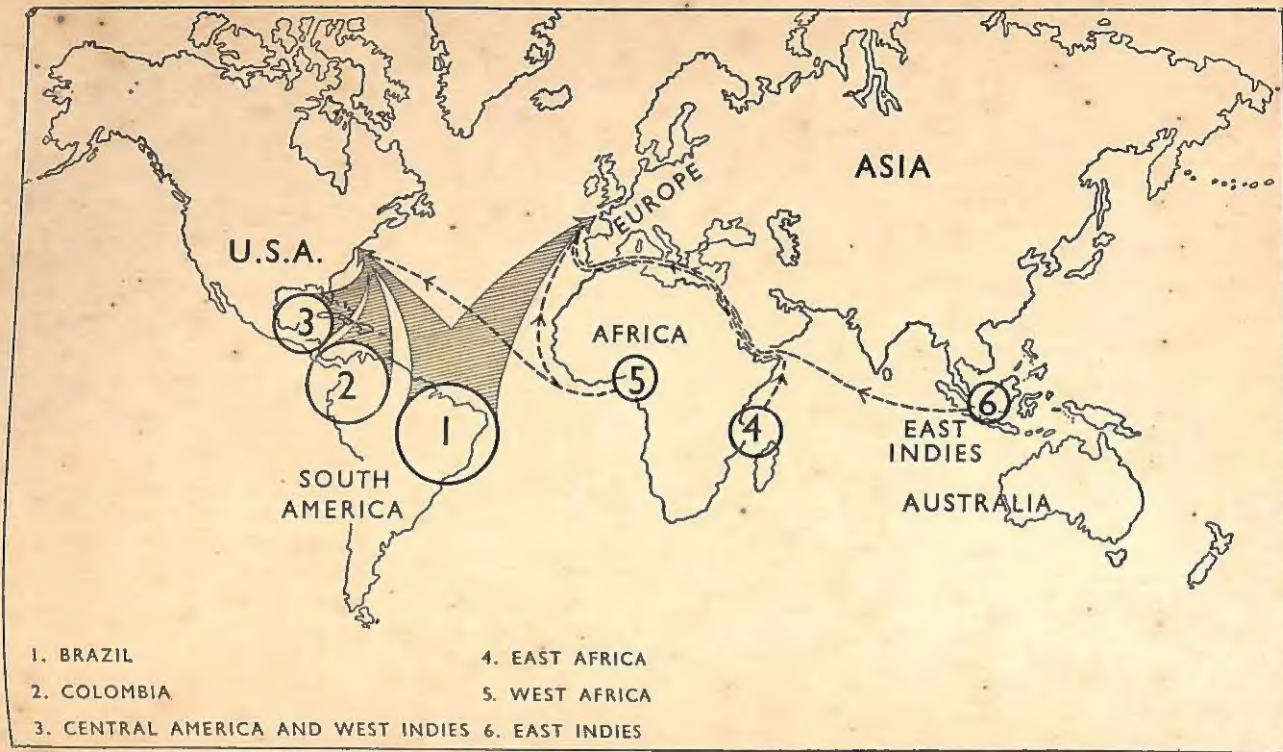
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**A CUP OF
COFFEE**

by
GWEN CROSS

THINGS WE USE

BOOK TWENTY-ONE

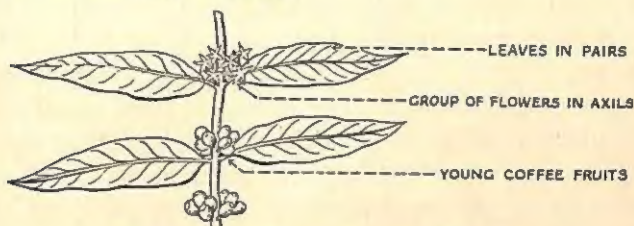
L O N G M A N S



CHAPTER I

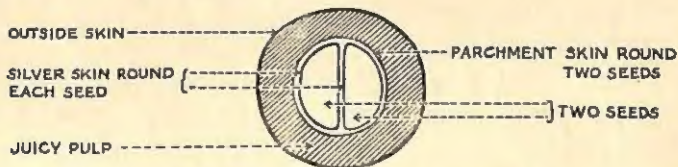
HOW THE COFFEE TRADE GREW

THE drink we call coffee is made from the seeds of the coffee tree. The trees grow to twenty or thirty feet high. The leaves are dark green and shiny. They grow in pairs. Small white flowers grow in the *axils* of the leaves.



PART OF A BRANCH OF A COFFEE TREE

Each fruit has a red skin, a juicy pulp, and two seeds together inside a tough skin. This is called the *parchment*¹ skin. Round each seed is another skin called the *silver* skin.



FRUIT CUT IN HALF TO SHOW PARTS

¹ Parchment: See Things we Use Series, Book 15, *Paper and Book* page 1.

A CUP OF COFFEE

Many years ago, coffee trees grew only in Ethiopia in Africa. Arab traders carried the seeds to Arabia. The Arabs liked the drink very much and they planted many trees. One kind of coffee, arabica, is named after Arabia.

In the sixteenth century, traders took coffee to Europe. "Coffee Houses" were opened where men met together to drink coffee and talk. In those days coffee cost much money because there was a big tax on it. People did not yet drink coffee in their homes. When governments made the tax smaller, coffee cost less money and more people could buy it.

Soon people began to like coffee very much. They wanted more coffee. Coffee trees grow well on hillsides in the hot, wet countries of the tropics. Men took coffee seeds to other countries. They made coffee plantations in the tropics in West and East Africa, in the West and East Indies¹, and in Central and South America. These countries sent coffee seeds to the countries where people wanted to drink coffee. The dry coffee seeds sent from the plantations are called *beans*.

In the last three centuries different countries, at different times, have been the biggest growers of coffee trees or have been the biggest buyers of the beans. Until the end of the eighteenth century, most of the world's coffee came from Arabia. In 1830 the biggest coffee plantations were in the West Indies. At this time London was the biggest buyer. In 1860 the East Indies¹ had the biggest coffee

¹ A large part of the East Indies is now called Indonesia.

HOW THE COFFEE TRADE GREW

plantations, and Amsterdam in Holland was the biggest buyer. Twenty years later Brazil was the biggest grower, and New York and Le Havre, in France, took the most beans. Today, most of the world's coffee trees still grow in Brazil. More than half of the millions of bags of beans each year go to the United States of America.

THINGS TO DO

1. Look at the map on the inside cover. Each circle marks a country where coffee trees grow. The lines across the oceans show the countries where the beans are sent.

Make three columns in your book.

In the left column write the number of a circle. In the next column write the name of the country it shows. In the next column write the name of the country to which it sends beans.

Write about each circle in the order of its size.

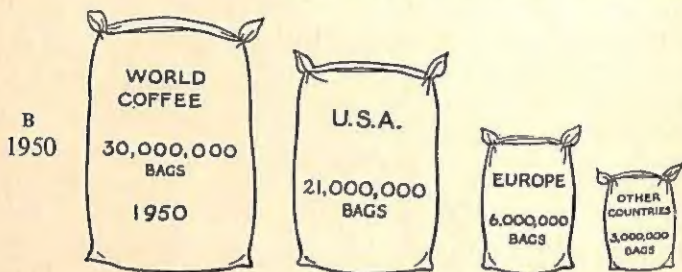
Why do you think the circles are different sizes and the lines across the oceans of different widths?

2. Look at these pictures: A for the year 1910, B for the year 1950. Read the story about A. Then write the story about B, in your book and copy the picture.



A CUP OF COFFEE

In 1910 the world's coffee plantations made 17,000,000 bags of coffee beans. They sent 9,000,000 of these to Europe. and 7,000,000 to U.S.A. All the other bags went to other countries.



QUESTIONS

1. In what century was 1830? Write the first and last years in the sixteenth century.
2. What coffee is named after Arabia?
3. The coffee fruit has juicy pulp. Which of these things has juicy pulp?

*tomato cabbage banana orange pawpaw
yam a nut a potato*

4. Where is the axil of a leaf? Draw a picture of a stem and a leaf, and put a bud in the axil.
- A. A pair is two of something. Name three other things which we speak about in pairs.
- B. Look at a map and learn the names of the two lines which mark the tropics. Name three countries that are outside the tropics.
- C. Juicy is an adjective from the word juice. Write adjectives from these words:

stone hunger leaf sleep wave

Write nouns from these adjectives:

windy sunny milky thirsty smoky

CHAPTER II

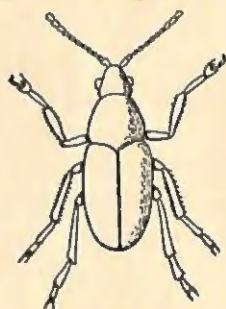
IN THE COFFEE PLANTATIONS

COFFEE plants need shelter from the sun and wind, so the seeds are planted in boxes or small gardens. They do not begin to grow for a few weeks. When the fourth leaf opens, the workers transplant the seedlings into bamboo pots. Each day they can put the pots in sheltered places.

Holes are dug ready in the plantation, twelve feet from one another. Between the lines of holes, other crops are planted. These grow and make shade for the coffee trees later. As the coffee trees grow tall in the plantation, they are all cut to five feet high.

Coffee trees need much care. Many insects damage roots and stems. An insect borer makes holes in the fruits. This spoils the taste of the coffee. Some years ago a sickness damaged the leaves of coffee trees in Ceylon. Many trees died. There are now only a few coffee plantations in Ceylon.

In five or six years there are enough fruits for harvest. A good picker collects three bushels of fruits in a day. From one bushel of fruits the farmer gets ten pounds of coffee beans.



A COFFEE BORER
INSECT

A CUP OF COFFEE

To prepare the coffee beans, the seeds must be separated from the skins and pulp. There are two ways to do this.

By the *Dry Way*, the farmer puts the ripe fruits on mats in the sun for several weeks. On big plantations he may dry them in sheds in hot air.



PICKING COFFEE

The *Wet Way* needs much water near the plantation. The fruits are put between wooden rollers. The skins break. The pulp is damaged. Water washes the fruits, without the outside skins, into cement tanks. The pulp begins to change. A liquid drains from it. We say it *ferments*. This is very important. If it does not ferment well, the coffee made from the beans will not have the best taste and smell.

Water washes the seeds until they are quite clean. When they are dry, we call them parchment coffee.

Hot air heats this parchment coffee until the tough skins crack. A machine (called a huller) rubs

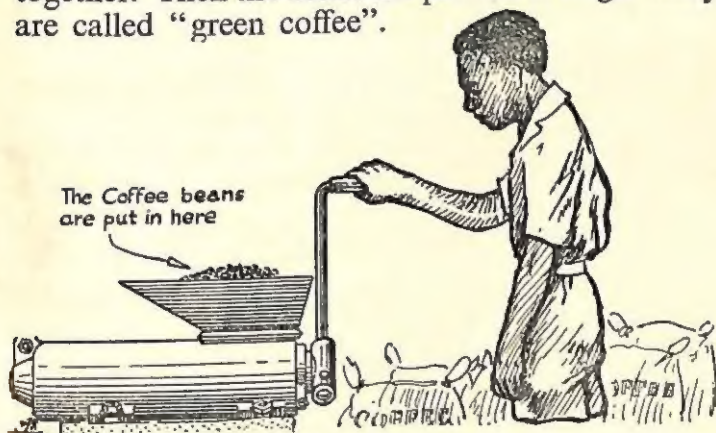
IN THE COFFEE PLANTATIONS



COFFEE DRYING ON MATS IN THE SUN

off the parchment skins and silver skins. Moving air blows or winnows away the skins.

The beans are now shaken in sieves with different sized holes. This separates the beans into different sizes. Workers take out bad or broken beans. We call this *grading*. Grading is very important because beans of different sizes do not roast well together. Then the beans are packed in bags. They are called "green coffee".



The Coffee beans
are put in here

The Coffee beans come out here
with their shells removed

A COFFEE HULLING MACHINE

A CUP OF COFFEE

THINGS TO DO

1. Many insects damage plants. If coffee trees grow near your school, look at them carefully. If not, look at other plants. Do you see any leaves, fruits, or stems damaged by insects? Can you see any eggs, caterpillars, pupae, or flying insects? Write in your book what you see. Tell the class in the next lesson. Try to learn more about one of the creatures that is damaging a plant.
2. If you can, get some ripe coffee fruits. If not, get some other fruit, like coffee, with seeds and juicy pulp (grape, tomato, a piece of water melon). Put it in a basin, on something with little holes in it. Cover the basin with a net cover. Write down the changes that you see. What collects in the basin? Take some seeds now and wash them. Do they become clean more easily than seeds from a fresh, ripe fruit?

QUESTIONS

1. What is (i) Parchment coffee? (ii) Green coffee?
2. Why, do you think, Ceylon sells only a little coffee nowadays?
3. Why is it important that coffee fruits should ferment well?
4. What work do these machines do:
a huller, a winnower?
- A. Learn this table of measures: 2 pints make 1 quart
4 quarts make 1 gallon
8 gallons make 1 bushel

Read paragraph four again.

How many gallons of coffee would a picker get in one

IN THE COFFEE PLANTATIONS

day? How many pounds of beans would the farmer get from them?

We use the bushel measure for measuring dry things like potatoes, fruits, seeds.

- B. On a coffee plantation there are many kinds of work.

Write them in the order in which they are done:

*grading planting packing transplanting drying
hulling fermenting packing winnowing washing*

- C. A bore is a narrow hole. What is a borer?

Name the things that we use when we want to:

rule a line toast bread rub out a word

Name the people who do these things:

*bake bread buy coffee beans take care of the
garden build houses drive a car drive a plane*

CHAPTER III

AT WORK IN A COFFEE FACTORY

GREEN coffee beans do not keep well in the damp air of the tropics. They are soon sent away from the plantations to the nearest place where ships can come for them.

On the ships, the bags must not touch anything made of metal. Metal damages the beans when they are green. There must also be plenty of air round the bags, or the beans will sweat. From the ships, the cargoes of beans go to the factories.



STORING GREEN COFFEE

In the factory, men take six ounces of beans from each cargo, to a Testing Room. Here they roast them. The beans swell. They become light brown, then dark brown. They have a strong, nice smell. The roasted beans weigh less than the green beans.

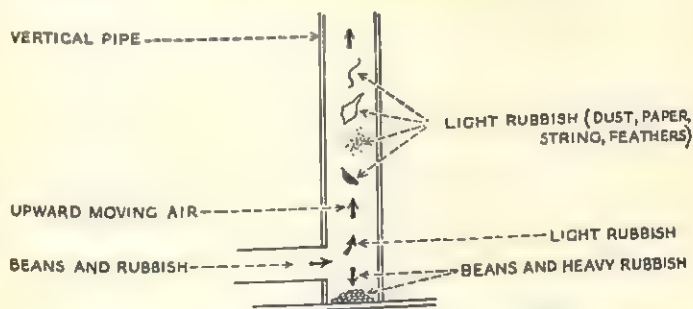
Men watch these changes. They write down how

AT WORK IN A COFFEE FACTORY

many minutes they take. They grind the beans. They pour on boiling water. They smell and taste the coffee.

From this work, they can tell the factory workers how many minutes to roast the beans. They can also tell how many bags of different cargoes of beans to mix together to make the coffee taste good. This is called *blending* coffee.

In the factory, the bags to make a blend are put together. They are opened and the beans are cleaned. A machine spreads them out and throws them gently into the side of a vertical pipe. Moving air takes the light rubbish up the pipe. The heavier beans and rubbish, stones; old nails, fall to the bottom.

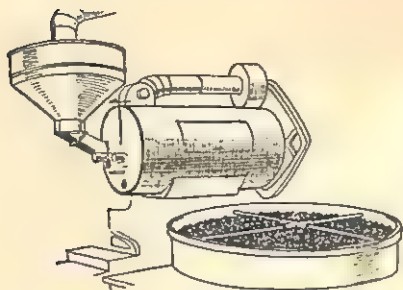


THE VERTICAL PIPE TAKING UP THE LIGHT RUBBISH

The beans go into the mixing machine and are then stored ready for roasting. There are many roasting machines. One man works a machine that roasts beans in four ovens one after the other. Coffee has the best taste when the beans roast in a short time, at the lowest heat possible.



A CUP OF COFFEE



A ROASTING MACHINE

The man takes a few beans out of the oven with a long handled spoon. He has roasted beans for many years. He knows when they are finished. He stops the oven. It opens. The beans fall out on a tray. Quickly metal "fingers" spread them out and a strong cold wind blows over them. They cool quickly.

THINGS TO DO

1. Try to get some green coffee. Measure half a pint of beans. Weigh them. Put them in an iron frying pan. Look at the time. Roast the beans over a fire. Shake the pan gently. Write down all the changes you see.

How many minutes do the beans take to roast? Put them on a tin plate to cool.

2. When the beans are cold, weigh them again. Measure them in the half pint measure. What do you learn? Write it in your book.

Put the cold beans in a tin with a tight lid.

AT WORK IN A COFFEE FACTORY

QUESTIONS

1. Why is the work in the Testing Room very important?
 2. Why are the dry, graded beans soon sent away from the tropics?
 3. What work is done in blending coffee beans?
- A. Point to six vertical lines in the class room. Draw a vertical line in your book.
- B. Silver and copper are metals. What metals would these things be made with?

*a spade a tin of meat a penny a kettle a very
light cooking pot a shilling an ear ring a wed-
ding ring*

- C. We read the *ou* in *ounce* like *ow* in *cow*. Here are ten words with *ou* in them. Copy those that say *ou* as in ounce.

*house country pound loud mouth
touch soul sound soup mountain*

CHAPTER IV

A CUP OF COFFEE

THE beans are now cleaned again. They are thrown into a vertical pipe again (see p. 11). Roasted beans weigh less than the green beans did, so this time the moving air blows the beans *up* the pipe. The heavy rubbish (stones and nails) falls to the bottom.

Some people like to buy whole roasted beans, and grind the beans themselves. Most people like

A CUP OF COFFEE

to buy coffee already ground. Machines grind the beans. The coffee is then weighed and put into tins, jars, or paper packets.



TINS, JARS AND PAPER PACKETS OF COFFEE

When the coffee has been ground, it does not keep well in the air. If it is not used quickly, it must be packed in tins or jars with tight lids, so that the air is kept out.

When we make coffee to drink, we make it in a special coffee pot. This coffee pot is in two parts. There is a top part with many small holes in it.



ARABS DRINKING COFFEE

A CUP OF COFFEE

The coffee is put into this part, which fits into the top of the big pot. Then we pour boiling water on to the coffee. The boiling water goes through the coffee into the pot underneath it. Then we take away the top part, and we have a pot full of hot coffee to drink.

People drink coffee because they like the taste, and because coffee contains something called *caffeine* which is refreshing. Some people like coffee with milk in it. This is "white" coffee. Other people like "black" coffee, without milk.

THINGS TO DO

Get some fresh, whole, roasted coffee beans. If you have a meat or coffee grinding machine, put the beans through it with a fine grinder. Put some of this ground coffee in a small tin or jar, and put the lid on tightly. Put some in a paper bag. Put some in a cup.

After six days, open the tin. Smell the coffee in the tin, the coffee in the bag, and the coffee in the cup. Pour boiling water on to each. Smell and taste the three lots of coffee that you have made. Which is the best?

QUESTIONS

1. A man works hard all day. He comes home tired. He asks for a cup of strong coffee. Why will this help him?
2. A friend buys a coffee pot and asks you why it has two parts. What is your answer?
3. If you live far from a shop, and you write an order for

A CUP OF COFFEE

coffee, would you ask for coffee in a paper packet or a tin? Why?

4. A friend asks you if you would like a cup of coffee, and says: "White or black?" What does this mean?

- A. Write one of these words in each of these sentences:

whole *hole* *weigh* *way*

- (i) That lid has a — in it.
(ii) Millions of bags of coffee beans go a long — from Brazil to New York.
(iii) Some people like to buy coffee beans — .
(iv) Roasted beans — less than green coffee.

- B. Fill in the gaps in these columns:

small	smaller	smallest
little	_____	least
_____	lower	_____
_____	_____	shortest
much	more	_____
heavy	_____	_____
_____	better	_____
light	_____	lightest

- C. Write the opposites of:

sweet *heavy* *more* *slowly* *coarse*

You may find these words difficult. When you meet them in the book, try to think out for yourself what they mean. If you cannot do this, ask your teacher for help.

Nouns

borer
bushel
caff  ine
cargo
huller
metal
taste

Adjectives

fine
possible
vertical
whole

Verbs

blend
ferment
grade
grind
roast
test



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First published 1957

Second Impression 1958

Third Impression 1960

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21. A Cup of Coffee
22. A Bar of Chocolate
23. Silk
24. Leather

